

## A NEW SUBSPECIES OF *Callophrys fotis* FROM THE SAN FRANCISCO BAY AREA (LYCAENIDAE)

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With the subspeciation *Callophrys (Incisalia) fotis* (Strecker) demonstrates, it is not surprising that a population differing from the previously described subspecies has been discovered in the San Francisco Bay area. With more extensive collecting in the Coast Ranges other subspecies may be expected.

The subspecies was first collected by David Rentz and reported by C. Don MacNeill in 1962 from the San Bruno Mountains, San Mateo County, (MacNeill, 1963).

### ***Callophrys fotis bayensis* Brown, new subspecies**

**Holotype male:** Wings, dorsal primaries uniform slate gray; androconial scales approximately one-half size of surrounding wing scales, pad paler than wing ground color; fringe from apex to vein 2V white, from 2V along inner margin slate-gray, becoming hair-like nearer body. Secondaries much the same as primaries, except anterior third of discal area paler. Vannal area much lighter, almost iridescent white.

Ventral primaries brown with red highlights. Beginning at coastal margin in post-medial area, a white spot with black line extending to  $M_3$ , a distal offset approximately one-fourth its entire length, then continuing to  $Cu_2$ . Little or no white scaling on distal edge of this line. Submarginal area with one black spot in each of cells,  $Cu_1$ ,  $M_3$ ,  $M_2$ , and  $M_1$ . Submarginal and marginal areas of secondaries reddish-brown with scattering of gray scales. Post-medial area below vein  $M_3$  with long white hair-like scales over base of dark gray. Anterior of  $M_3$  much the same as marginal area. Traversing the wing a dark median line bends out sharply in area of discal cell, distal edge of median line with scattered white scales. Submedial and basal areas with heavy, dark brown scaling, area with thick long hair-like reddish-brown scales. White spot on inner curve anal lobe more prominent than dorsal surface. Dark spots in cells  $R_1$ ,  $R_s$ ,  $M_1$  and  $M_2$ , on distal edge of post-medial area.

Head, crown, and front with reddish-brown scaling; eyes hairy bordered with white scales; labial palpi have mixture of black and white scales. Thorax and abdomen hairy and concolorous with dorsal wing surface.

**Allotype female:** Wings, dorsal primaries and secondaries tan in distal and limb area; perimeters gray.

Ventral primaries and secondaries marked as male.

**Holotype male:** California, San Mateo Co., San Bruno Mts., April 4, 1962 (C. D. MacNeill); allotype female, same locality, March 19, 1963 (C. D. MacNeill). Types are deposited in the California Academy of Sciences, San Francisco; Entomology Type #9547.

Paratypes, 16 males and 20 females; all are from the same locality as holotype; the dates and collectors are as follows: 1 ♂, 3 ♀ III-23-1962 to III-30-1962, 1 ♂, 1 ♀ IV-4-1962, 2 ♂, 1 ♀ IV-5-1962, 1 ♂ IV-11-1962, 1 ♂, 1 ♀ III-13-1963, 4 ♂, 2 ♀ III-19-1963, 2 ♂, 2 ♀ III-20-1963 (C. D.

MacNeill); 1 ♂ IV-11-1962 (U. Kinet); 1 ♂, 3 ♀ IV-5-1962 (R. M. Brown); 1 ♀ III-23-1962 (D. C. Rentz); 1 ♀ IV-6-1962, 2 ♂, 2 ♀ IV-7-1962, 1 ♀ IV-10-1962 (J. Powell); 1 ♀ III-17-1966 (A. J. Slater); 1 ♀ III-19-1966 (P. A. Opler).

One male and one female are in the collections of the U. S. National Museum, Washington, D. C., The Carnegie Museum, Pittsburgh, and the Canadian National Collection, Ottawa. The remainder of paratypes will be at the California Academy of Sciences; the California Insect Survey, University of California, Berkeley; the collection of Paul A. Opler of the University of California, Berkeley; and the author's collection.

*Callophrys fotis bayensis* Brown, approaches *Callophrys fotis mossi* (Hy. Edwards), closely in general appearance but averages 2.2 mm smaller measured from right primary base to apex. The irregular line on the underside of secondaries has less white on the distal edge than *C. f. mossi*. The gray area between this line and the postmedian row of spots is restricted below  $m_3$ , whereas in *C. f. mossi* the gray tends to cover the entire area.

The markings on *Callophrys fotis doudoroffi* dos Passos, are quite similar to *C. f. bayensis*, except that *C. f. doudoroffi* is lighter in color with less contrast between the basal and distal areas. *C. f. doudoroffi* averages 1.4 mm larger than *C. f. bayensis*, as measured from base of right primary to its apex.

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#### LITERATURE CITED

- MACNEILL, C. D., 1963. *Callophrys fotis* (Strecker), in the San Francisco Bay area. Proc. Pacific Coast Ent. Soc., 279th meeting, Pan-Pacific Ent., 39(1): 60.